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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/037,229

01/03/2002

Masatoshi Arikawa

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02/07/2005

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EXAMINER

SANTIAGO, ENRIQUE L

ART UNIT

PAPER NUMBER

2671

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/037,229	ARIKAWA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Enrique L Santiago	2671	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6,8-11,13-17,19,30,32-38,40,41,43-78 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-11,13-17,34-38,40,41 and 43-78 is/are allowed.
- 6) ☒ Claim(s) 1-6,17,19,30,32 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### **Claim Rejections - 35 USC § 102**

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-4, 30, 32 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Xiong et al. US patent no. 6,434,265.

-Regarding claim 1, Xiong et al. teaches a Pseudo (virtual) 3-D space representation system for representing a pseudo 3-D space with a plurality of 2-D images (see figs. 1<sub>(a-b)</sub>, column 3, lines 47-51): a specified area associating means for associating one or more sets of areas specified on one image and at least one other image as common areas (see figs. 1-5, 9 and 10, column 4, lines 54-63, column 5, lines 41-45); an image transforming means for transforming one or both images through affine transformation into matched common areas specified on the images (column 5, lines 19-23, column 10, lines 9-28); and an image display means for displaying both images as superposed on each other after transformation of at least one image (see fig. 2).

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-Regarding claim 2, Xiong, et al. further teaches a user interface, which allows a user to manually select and position the images to be registered (see fig. 2, column 6, lines 5-11).

-Regarding claim 3, the rationale for claim 1 is incorporated. In addition, Xiong et al. describes the ability of a user to manually intervene in any step in the process (column 5, lines 55-63).

-Regarding claim 4, the rationale for claim 2 is incorporated.

-Regarding claims 30 and 33, Xiong et al. further teaches a system being controlled by a program residing in memory (column 3, line 61-column 4, line 4).

-Regarding claim 32, Xiong et al. further teaches a system including computer readable recording medium with a recorded program (see fig. 2, column 3, line 54-column 7, line 4).

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al. US patent no. 6,434,265.

-Regarding claim 19, Xiong et al. does not specifically disclose implementing the system as a server-client system, in which a server stores and registers the images together. However, said server-client systems are well known in the art, therefore it would have been obvious to those of ordinary skill in the art at the time the invention was made to do so, because the step of

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registering the overlapping images is computationally expensive, and may be completed faster with a server machine than with a client machine.

Claims 5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al. US patent no. 6,434,265 in view of Adelson US patent no. 5,706,417.

-Regarding claim 5, Xiong et al. does not disclose a transparency specifying means for specifying transparency for one image respective to another image and wherein the image display means displays the images according to the specified transparency of the image.

However in similar art Adelson describes an attenuation map, which describes the amount of image data to be displayed in a section of the layer relative to others (column 4, lines 54-58). If the attenuation value is chosen to be between zero and unity for a section of a layer, that layer will be displayed with a specific transparency level (column 6, lines 4-7).

Therefore it would have been obvious to those of ordinary skill in the art at the time the invention was made to combine the attenuation map of Adelson with the system of Xiong et al., because it is desirable to be able to represent a transparent object, such as a window, within a virtual reality scene.

-Regarding claim 17, Xiong et al. does not disclose means for displaying two or more images in succession in a specified order. However in similar art Adelson discloses a velocity map, which describes the change of the points in a layer over time, thus providing information for displaying an animation of the image (see fig. 4, column 4, lines 59-63, column 7, lines 25-30). Therefore it would have been obvious to those of ordinary skill in the art at the time the invention was made to add the animation capabilities of Adelson to the system of Xiong et al., because it is desirable to use animation to create a more realistic virtual reality scene.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Xiong et al. US patent no. 6,434,265 in view of Balogh et al. US patent no. 5,493,677.

-Regarding claim 6, Xiong et al. does not disclose means for displaying metadata added to an image when a user selects the image. However in similar art Balogh et al. discloses a system for the generation, archiving, and retrieval of digital images, in which metadata is added to an image (see column 3, lines 11-43), and is displayed when the user selects the image (see column 4, lines 26-27). Therefore it would have been obvious to those of ordinary skill in the art at the time the invention was made to add the metadata storage and selection means of Balogh et al. to the system of Xiong et al., because it is desirable to be able to provide information about specific objects to the users of a virtual reality application.

### **Response to Arguments**

Applicant's arguments filed June 1, 2004 have been fully considered but they are not persuasive.

Regarding the applicants argument that *"On the contrary, the present invention, irrespective of forming the 3-D panoramic image, specifies or selects common areas existing on two images... the difference from Xiong et al's system for generating the "smooth successive representation" of panoramic images lies in that the system of the present invention is designed to create a pseudo 3-D space representation with two separate images superimposed on each other..."* The Examiner disagrees. Xiong et al. teaches said limitations as stated in the present rejection (also see figs. 1-5, 9 and 10).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *"determines difference (deformation) between the selected areas, and deforms one or both of the two images in order to fill the difference with a display of two images as deformed. In other words... The "state of images separated from and*

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*superposed on one another" is expressed by the wording "pseudo 3-D collage" as used in the present application...With the method of the present invention... it is possible to provide a pseudo representation of free movement in which a rotation is combined with movements in the longitudinal and transverse directions... it is possible to superpose a theoretically unlimited number of images on an image...it is possible to build up a system which superposes in real time a new image that is successively updated... can possess extremely high flexibility and expandability of its representation and application... specifying that successively more transparent images are superposed upon one another, with the least transparent image being at the bottom and the most transparent image on the top... as in a action simulation version of the system of the present invention, such as in a gaming system, where a sequence or succession of images are displayed to represent action or motion") are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).*

#### **Allowable Subject Matter**

Claims 8-11, 13-17, 34-38, 40,41, 43-78 are allowed.

#### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Enrique L Santiago whose telephone number is 703 306-5908. The examiner can normally be reached on Monday to Friday from 7:00 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman whose telephone number is 703 305-9798, can be reached on Monday to Friday from 7:00 A.M. to 3:30 P.M.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

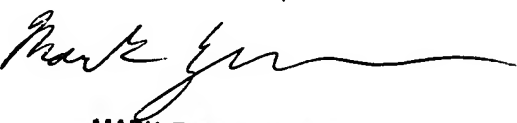
703 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Enrique L. Santiago

January 31, 2005

  
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